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**1509** **PREVALENCE AND CLASSIFICATION OF EPILEPSY AMONG CHILDREN IN A RURAL TEACHING HOSPITAL OF WESTERN INDIA**

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**Background and Aims** To study Prevalence of Active Epilepsy in children and Clinical pattern of seizures among epileptics. Classification of epilepsy and epileptic syndromes was done according to ICEES,1989.

**Methods** All 0–18 year old patients; visiting Hospital during the study period. The ones with Active Epilepsy were studied for clinical pattern of seizures and classification of epilepsy.

**Results** 4981 patients visited the hospital which included 2893 (58%) males and 2088 (42%) females. Active Epilepsy was found in 41 boys and 19 girls. Crude Prevalence was 12 per 1000. Gender specific prevalence was higher in males 14.1/1000 as compared to females 9.1/1000. Age specific prevalence was maximum 19.2/1000 in age group of 5–10 yrs. Maximum patients (25%) had their seizure debut in First year of life. Secondly generalized seizures were the most common type of seizures with 20 (33.3%) of patients having it as the main seizure type. Wests syndrome and Lennox Gastaut syndrome were the most common generalized epileptic syndromes. 20% had Idiopathic Epilepsy, 30% probably Symptomatic (earlier Cryptogenic) and 50% had Symptomatic epilepsy. Perinatal asphyxia accounted for 36.7 % of symptomatic epilepsies. 43.3% of patients had neurohandicaps of which CP alone accounted for 53.8%. 31.7 % of the patients were on multiple AEDs, 30% were on Valproate alone at the time of presentation.

**Conclusions** This study emphasizes the fact that perinatal asphyxia, CNS infections are major contributing factors to childhood epilepsy also leading to a higher percentage of Wests syndromes and LG syndrome which is not the case in western studies.

**1510** **A STUDY OF THE VALUE OF SLEEP EEG RECORD IN PREDICTING SEIZURE RECURRENCE IN CHILDREN WITH A SINGLE AFEBRILE SEIZURE**

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**Aims** The main aim of the study was to determine the value of a sleep EEG recording in predicting the risk of epilepsy in children with a single afebrile seizure.

**Methods** A retrospective review of 69 children who underwent sleep EEG recordings in 2007 following their first afebrile seizure was undertaken. Parents were sent a questionnaire on seizure recurrence, diagnosis of epilepsy, anti-epileptic medication use, further EEGs and school progress.

**Results** Fifty two (52) questionnaires (75%) were completed and returned. Twenty three of the fifty two children (44%) have had one or more further seizures - 7/25 (28%) of those with normal sleep EEG recordings and 14/21 (67%) of those who had abnormal sleep EEG recordings. 6/52 (12%) of the respondents had suspicious EEG and 2 of these have had further seizures. 12/21 (57%) of those with abnormal sleep EEGs compared with 5/25(20%) of those with normal EEG have had multiple further seizures.

Pearson-Chi Square revealed a significant relationship between abnormal EEG and the development of further seizures ( $p < 0.01$ ). The odds of having further seizures if the EEG was abnormal was 4.9 (95% C.I 1.5–16.1).

**Conclusions** Sleep EEG is a useful tool in predicting the risk of developing epilepsy in children with first afebrile seizure.

**1511** **DOES NEPHROTOXICITY EXIST IN EPILEPTIC PATIENTS ON VALPROATE OR CARBAMAZEPINE THERAPY ? (A PRELIMINARY STUDY)**

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**Objective** The aim of the study was to investigate renal glomerular and tubular side effects of valproate and carbamazepine if exists, in children who are on these antiepileptic drugs between 6 months and two years of time.

**Method** A prospective study was performed on epileptic children (primary generalized and partial epilepsy) under valproate (n:30), carbamazepine (n:24) treatments and healthy control group (n:26). The serum creatinine, Cystatin C levels and urinary excretion of N-acetyl- $\beta$ -D-glucosaminidase levels were taken at the beginning of the study and after 6 months of therapy. Three Glomerular filtration rate formulae with creatinine, Cystatin C and combined of all of were used to determine glomerular filtration functions.

**Results** Serum creatinine, Cystatin C levels of patients and glomerular filtration rate values were in the normal range according to patient ages and healthy control group. However urinary N-acetyl- $\beta$ -D-glucosaminidase/creatinine levels were higher in both groups (valproate 6.1 $\pm$ 5) (carbamazepine 3.14 $\pm$ 1.97) when compared to the levels of the control group (2.6 $\pm$ 1.3) ( $p < 0.05$ ) Although this is a preliminary study; bearing in mind that patients on both antiepileptic drugs may have a tubulotoxicity risk; renal function test should also be checked in during the treatment of all patients with special emphasis when there is a renal or systemic disease co-existing.

**1512** **VALIDITY OF THE CLINICAL NEUROLOGICAL STATE IN DIAGNOSING DIABETIC PERIPHERAL NEUROPATHY**

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**Objective** We aimed to evaluate the prevalence of diabetic peripheral neuropathy (DPN) in children and adolescents with type 1 diabetes mellitus (T1DM) and examine whether the clinical neurological state validly diagnoses DPN as compared to the gold standard of nerve conduction velocity (NCV) in these patients.

**Methods** We measured NCV in an unselected consecutive series of patients aged 8–18 years who had been suffering from T1DM for at least one year. The clinical neurological state of these patients was examined using a protocol including ankle reflex, vibration, pinprick, and temperature testing as well as a standardized questionnaire; neuropathy disability scores (NDS) and neuropathy symptom scores (NSS) were assessed.

**Results** Of our 39 patients, six (15%) had clinically evident DPN, whereas NCV testing revealed DPN in 15 (38%) patients. Sensitivity and specificity of the clinical neurological exam for the diagnosis of DPN as compared to the gold standard of pathological NCV were 40% and 100%, respectively. The corresponding positive and negative predictive values were 100% and 72.7%, respectively.

**Conclusion** In children and adolescents with T1DM DPN is highly prevalent, but in the majority of patients it is subclinical. Sensitivity and negative predictive values of the clinical neurological exam are low. Therefore, routine NCV measurement for the assessment of DPN appears warranted in these patients.

#### 1513 EAST OR SESAME SYNDROME: A CASE SERIES

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**Introduction** Molecular and genetic advances have changed the way we look at associations of signs and symptoms or miscellaneous syndromes. A recent report has hypothesized that KCNJ10 mutations, affecting potassium channels present in the brain, ear and the kidneys, are responsible for the constellation of epilepsy, ataxia, sensorineural deafness and tubulopathy (EAST or SeSAME syndrome). We present six patients belonging to three families with similar findings.

**Case Series** We describe three Asian siblings, two Caribbean siblings, and one Caucasian child who have epilepsy, ataxia, sensorineural hearing loss, and tubulopathy. Consanguinity was present only in the Asian family. Seizures were a presenting symptom in four of the cases with onset as early as 3–7 months of age. Development delay and learning difficulties were present in all of the cases. Ataxia was evident from early on. Sensorineural hearing loss was identified at different ages and in some cases was asymptomatic. In some cases, tubulopathy was an incidental finding. Two of the children were being followed up by nephrologists and neurologists before a unifying diagnosis was determined. Five children had previously been extensively investigated with metabolic and mitochondrial investigations, magnetic resonance images, and electroencephalograms all normal. All six children had biochemical evidence of a tubulopathy with hypokalaemia, hypomagnesaemia, and alkalosis. KCNJ10 DNA mutations have been identified in all the children.

**Conclusion** Recent advances in genetics have enabled us to determine the likely unifying cause for hitherto puzzling signs and symptoms in six children under our care.

#### 1514 DEMOGRAPHIC, ETIOLOGICAL AND CLINICAL CHARACTERISTICS OF OUR CEREBRAL PALSY CASES

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**Aim** The aim of this study is to reveal demographic, etiological and clinical characteristics of our cerebral palsy cases and to underline differences peculiar to Thrace region of Turkey.

**Methods** One hundred and thirty five cerebral palsy cases, followed by Medical Faculty of Trakya University, Department of Pediatrics, Division Pediatric Neurology, were evaluated retrospectively. Data were obtained through out patient clinic files and patient discharge forms. Interviews by the phone were carried on in order to complete the necessary information. Demographic, etiological, laboratory and clinical characteristics of the cases were recorded.

**Results** The mean age of the cases was 112.65±47.02 months (2–18 years) and boy/girl ratio was 1.8. The majority of the case etiologies were perinatal risk factors accounted for 61.5%. Forty per cent of the cases were term AGA. Spastic type cerebral palsy constituted 91.9% of all cases with cerebral palsy while 46% of them were quadriplegic. Quadriplegic type was encountered most (46.2%) in term deliveries, while diplegic type was the most common form in preterms (47.4%). Speech problems (77.8%) and mental retardation (75.6%) were the most accompanying problems. Epilepsy accompanied 72.6% of the

cases. An increasing rate of malnutrition was detected parallel to increasing age groups.

**Conclusions** Cerebral palsy cases showed certain differences in terms of demographic, etiological and clinical characteristics in Thrace region comparing to other regions.

#### 1515 INFANTILE SPASM IN CHILDREN: CLINICAL FEATURES AND OUTCOME

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**Objective** Clinical features and outcome of children with infantile spasms.

**Study Design** Interventional and observational study.

**Place and Duration of Study** The Department of Neurology, Children's Hospital, Lahore, Pakistan, from January 2010 to December 2011.

**Methodology** Children aged <2 years presented with history of infantile spasms were assessed. Clinical presentation, EEG findings and response of anti-epileptic drugs was analyzed.

**Results** A total of 51,370 children visited Neurology outpatient department of Children Hospital, Lahore. Out of them, 450 infants had infantile spasms at their first presentation. Mean age at presentation was 6.6 + 2.5 months. Out of 450 children, 76% children presented at age < 6 month, 72% presented due to infantile spasms and 18% because of global developmental delay. Spasm types were mixed (38%), flexors (44%), extensor (16%) and asymmetric (2%). Symptomatic seizures were seen in 72% and cryptogenic in 28%. Hypsarrhythmia (67%) was the predominant EEG finding followed by modified hypsarrhythmia (24%) and other forms of epileptic discharges in 9% children. Majority of children were receiving oral Phenytoin, Carbamazepine or Valproate sodium. We initiate the management with oral Prednisolone followed by Clonazepam or valproate acid. ACTH therapy was administered in only 5 children.

**Conclusion** Infantile spasms are one of the refractory epilepsy in children. Abnormal EEG findings predominantly the hypsarrhythmia or modified hypsarrhythmia are the hallmark. Majority of children received conventional AED with poor response. Oral prednisolone is proved to be the most effective AED. These children should be referred to the tertiary care paediatric neurology centers.

#### 1516 ELECTROPHYSIOLOGICAL STUDY OF PERIPHERAL NERVES IN CHILDREN WITH ACUTE LYMPHOBLASTIC LEUKEMIA

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**Introduction** Acute lymphoblastic leukemia (ALL) is a malignant disorder of lymphoid progenitor cells, affects both children and adults. Chemotherapy induced peripheral neurotoxicity is an important side-effect of several chemotherapeutic agents.

**The Aim** of study was to detect the presence and types of peripheral neuropathy in newly diagnosed children with acute lymphoblastic leukemia, before and after the phase of induction of remission.

**Patients and Methods** 24 patients newly diagnosed as ALL were enrolled into the present study (group I); they were subjected to clinical and electrophysiological assessments which assess the integrity of the peripheral nervous system through conducting nerve conduction study and electromyography before and after receiving the chemotherapeutic agents. Ten apparently healthy children served as controls (group II).

**Results** 16 cases (67%) out of the 24 examined ALL patients were proved electrophysiologically to be free from PN, while 8 cases